BIOLOGICAL EVALUATION
Dwarf Mistletoe Project

Ashley National Forest
Campbell Cutover - Sheep Creek Park - Flaming Gorge R.D.
Region Four
Utah

1971

INTRODUCTION: On September 8, 1971, Timber Staff Officer Don Goodrich, Foresters Roy Morgan, and Darryl Johnson, and Pathologist Al Tegethoff visited the Campbell cutover area near Sheep Creek Park to evaluate the dwarf mistletoe Control Project possibilities. The evaluation was made by taking a series of 1/300 acre sample plots along a random line at one-chain intervals. Overstory trees and advanced regeneration was counted and the saplings examined for dwarf mistletoe. This is a very dense stand of lodgepole pine of good vigor but beginning to stagnate due to competition. As many as 33 trees were counted on one 1/300 acre plot. Expanded to one acre, this gives a total of 9,900 trees/acre. While the whole area is not this dense, the average number/acre, according to our plots, is 2,610 trees. This area needs thinning desperately.

CAUSAL AGENT: Lodgepole pine dwarf mistletoe--Arceuthobium americanum.

HOST: Lodgepole pine--Pinus contorta.

FOREST TYPE AND ASSOCIATE SPECIES: Lodgepole pine and a few subalpine fir and aspen.

TYPE OF DAMAGE: At present, some mortality due to dwarf mistletoe is occurring in the overstory. The levels of infection in the understory are between class 1 and 2. At this level of infection, no damage is occurring. The potential for severe damage is great due to overstory, seed source and a fairly high level of infection in the reproduction. Our plots showed 339 infected understory trees/acre.

STAND DATA: This area supports a dense stand of reproduction, plot data showing 2,610 understory stems/acre. Of those 339, ~~over~~ 13% are infected. Intensity of infection lies between class one and two. There are 198 overstory trees/acre, almost all infected with dwarf mistletoe. The average d.b.h. of the understory trees is 3 inches. Growth, at present, averages 10.1 rings/inch but growth is slowing due to competition. Products in this area are pit props and saw logs. At 10 rings/inch

and a 10" minimum diameter merchantable log, time to that log will be 35 years under ideal conditions. I feel a more realistic estimate would be 50 - 75 years.

ENVIRONMENTAL FACTORS: Neither elevation nor snowpack have any effect upon infection. Crowns of these trees are above the deepest snowpack.

EXTENT OF INFECTION: Most of the old growth lodgepole pine on the Ashley National Forest is infected with dwarf mistletoe. Wherever these stands have been opened, regeneration has become established and so has, to lesser or greater degrees, lodgepole pine dwarf mistletoe.

LOCATION: See map.

DISCUSSION: This area is a good prospect for a dwarf mistletoe control project. However, the project should not be attempted unless a dwarf mistletoe or K-V thinning operation to reduce stocking is done concurrent with the dwarf mistletoe control project. Removal of all the dwarf mistletoe infected understory would still leave over 2,200 trees/acre. I believe that this is excellent site and will grow a good crop if thinned properly. Because of the numbers of sapling/acre to be thinned, it should be possible to reduce the dwarf mistletoe infection to a very low level. In this area, nonhost species are not present in any significant quantities.

RECOMMENDATIONS: I recommend that this project be approved if T.S.I. funds are available to augment the dwarf mistletoe project funds.

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